

REMARKS

Claims 1, 2, 5-13, and 16-52 are pending in this application. Claims 1, 2, 8-13, and 19-30 are currently withdrawn from consideration. By this Amendment, claims 5, 7, 16, and 18 are amended; new claims 31-52 are added; and claims 3, 4, 14, and 15 are canceled without prejudice or disclaimer to the subject matter contained therein. Support for the amendments to claims 5, 7, 16, and 18 can be found, at least, within paragraphs [0116] - [0119] of the specification, for example.

Support for new claims 31 and 39; 32 and 40; 33 and 41; 34 and 42; 35 and 42; 36 and 50; 37; 38 and 52; 44; 45; 46; 47; 48; 49; and 51 can be found, at least, within paragraphs [0117]; [0119]; [0119]; [0069], [0080], [0096], and [0119]; [0024]; [0025] and [0044]; [0026]; [0027] and [0046]; [0037]; [0124] and [0125]; [0039]; [0040]; [0097]; [0030]; and [0045] of the specification, respectively, for example. No new matter is added. Applicant respectfully submits that new claims 31-52 read on the elected species. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

I. Claim Rejection under 35 U.S.C. §102

The Office Action rejects claims 3, 4, 14, and 15 under 35 U.S.C. §102(b) as allegedly anticipated by Mori (EP 0 823 662 A2). Applicant respectfully traverses the rejection.

By this Amendment, claims 3, 4, 14, and 15 are canceled rendering the rejection thereof moot. Accordingly, Applicant respectfully requests withdrawal of the rejection.

II. Claim Rejection under 35 U.S.C. §103

The Office Action rejection claims 5-7 and 16-18 as allegedly unpatentable over Mori in view of Schuster (U.S. Patent Application Publication No. 2001/0019403 A1). Applicant respectfully traverses the rejection.

Applicant respectfully submits that the applied references fail to disclose and would not have rendered obvious, at least, an exposure method wherein a light beam having a wavelength range different from a wavelength range of the exposure beam enters one end of an optical guide, by a polarization state control mechanism, a polarization state of the light beam which has passed through the optical guide is changed into a linearly-polarized state, and then changed into a predetermined polarized state, and a part of at least one of the first object and the projection optical system is irradiated with the light beam in the predetermined polarized state to correct an imaging characteristic of the projection optical system, as recited by independent claim 5, and similarly by independent claim 16.

Applicant respectfully submits that Mori discloses an illumination light IL1 of wavelength λ_1 , and an illumination light IL2A of wavelength λ_2 , where IL2A passes through the polarization beam splitter 42, enters a 1/4 wavelength plate 43, is reflected by a mirror 44, goes back along its optical path through the 1/4 wavelength plate 43, and enters the polarization beam splitter 42 as an s-polarized beam. See page 9, lines 14-23 of Mori.

Although Mori describes that the illumination light IL2A, which has a different wavelength from that of the illumination light IL1, becomes s-polarized, Mori does not disclose nor would it have rendered obvious that a polarization state of a light beam, which has a wavelength range different from that of an exposure beam, is changed after passing through the optical guide, especially in two steps, i.e., first, a polarization of the light beam is converted into a linearly-polarized state, and then the polarization of the light beam is converted into a predetermined polarized state, as required by independent claim 5, and similarly by independent claim 16.

Schuster merely discloses an optical arrangement wherein the output distribution of an input light beam may be achieved, e.g. by polarizing optical components associated with the fibers 11. See paragraph [0038] of Schuster.

Applicant respectfully submits that Schuster does not cure the deficiencies of Mori. Specifically, as stated in the office action, Schuster is cited solely for the "illumination through an optical guide." Additionally, Schuster does not disclose nor would it have rendered obvious that a polarization state of the light beam, which has a wavelength range different from that of the exposure beam, is changed after passing through the optical guide, in two steps, as required by independent claim 5, and similarly by independent claim 16.

Accordingly, the applied references fail to disclose and would not have rendered obvious each and every element of independent claims 5 and 16. As such, independent claims 5 and 16 are patentable. Dependent claims 6, 7, 17, and 18 are also patentable, at least, by virtue of their dependencies from a patentable independent claim, as well as for the additional features they recite.

Accordingly, Applicant respectfully requests withdrawal of the rejection.

III. Advantages of the Claimed Subject Matter

Applicant respectfully submits that the claimed subject matter is advantageous over the prior art because when a predetermined member, which has a large influence on the aberration due to heat absorption, is locally irradiated with a light beam through an optical guide to heat the member, a rotationally asymmetric aberration or a high order rotationally symmetric aberration can be efficiently controlled. Further, use of an optical guide in this case can permit the light beam to be introduced to a desired heating location easily, and when the polarization state of the light beam varied in the course of propagating in the optical guide, the light beam can be set to a desired polarization state by the polarization state control mechanism. It therefore can be possible to apply the light beam having a polarization state where the member easily absorbs the light beam.

IV. New Claims 31-52

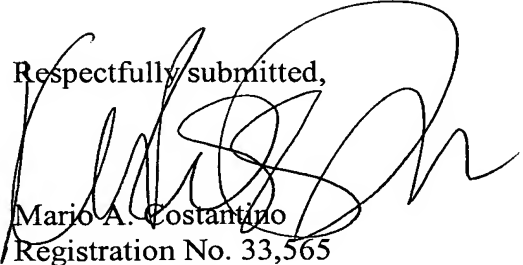
Applicant respectfully submits that new claims 31-52 are patentable, at least, by virtue of their dependencies from a patentable independent claim, as well as for the additional features they recite.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,


Mario A. Costantino
Registration No. 33,565

Kevin R. Davis
Registration No. 64,667

MAC:KRD/jqw

Attachments:

Amendment Transmittal
Petition for Extension of Time

Date: November 24, 2010

OLIFF & BERRIDGE, PLC
P.O. Box 320850
Alexandria, Virginia 22320-4850
Telephone: (703) 836-6400

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